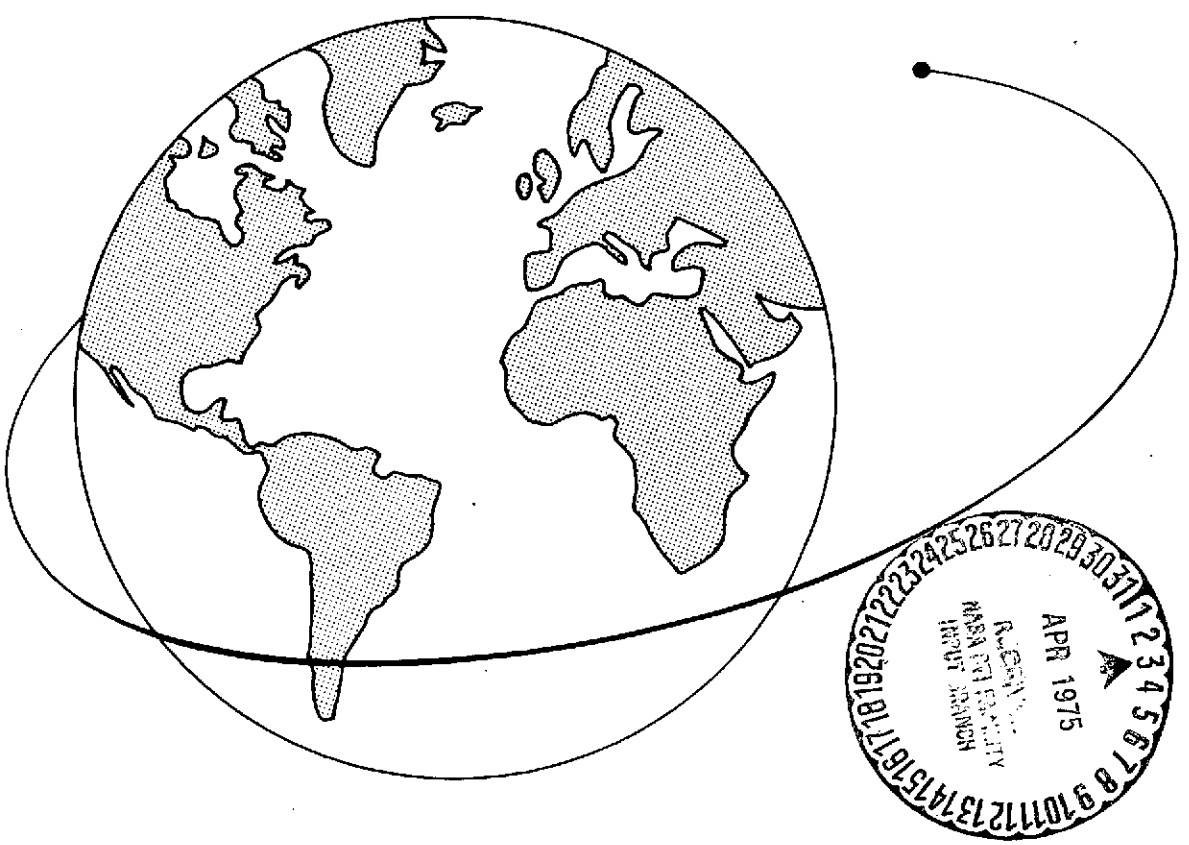
THE ESTIMATION OF 550 km × 550 km MEAN GRAVITY ANOMALIES

M. R. WILLIAMSON and E. M. GAPOSCHKIN



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ABSTRACT

The calculation of 550 km × 550 km mean gravity anomalies from 1° × 1° mean free-air gravimetry data is discussed. The block estimate procedure developed by Kaula is used. Estimates for 1452 of the 1654 blocks are obtained.

RÉSUMÉ

Dans cet article on discute du calcul des anomalies de la gravité moyenne sur 550 km x 550 km à partir de données de gravimétrie moyenne sans air sur 1° x 1°. On utilise le procédé d'estimation de blocs développé par Kaula. On obtien des estimations pour 1452 des 1654 blocs.

КОНСПЕКТ

Обсуждается вычисление средних гравитационных аномалий 550км X 550км, исходя из средних данных гравитометрии свободнсй атмосферы 1° X 1°. Употребляется процедура оценки блока разработанная Каула. Получены оценки для 1452 из 1654 блоков.

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1. THE BLOCK COVARIANCE METHOD

The objective is to obtain estimates of mean gravity anomalies for 550 km × 550 km regions from an incomplete set of 1° × 1° mean free-air gravity anomalies. The estimate procedure is based on the covariance analysis developed by Wiener (1966), Kolmogoroff, and Kaula (1967). A description and evaluation of the procedure are given in Gaposchkin (1973).

To obtain the mean gravity anomaly for a 550 km × 550 km block, estimates of all 110 km × 110 km unit mean gravity anomalies in the block are needed. For units where measurements of 1° × 1° mean gravity anomalies are available, the unit mean anomalies are taken to be the average of the 1° × 1° mean anomalies within the unit. The other unit mean anomalies g are calculated from the measured unit anomalies f in the same block by the equation

$$g_i = \sum_{j=1}^{N} \left(\sum_{k} K_{ik} K_{jk}^{-1} \right) f_j \quad ,$$

where K_{jk} are elements of the block covariance matrix, which is given by

$$K_{jk} = K(f, \tau_{jk}) \quad .$$

K is the intra-block covariance function of the unit anomalies f, and τ_{jk} is the distance between the jth and kth units. The covariance function is estimated from

This work was supported in part by Grant NGR 09-015-002 from the National Aeronautics and Space Administration.

$$K(f, \tau) = \frac{1}{N_{jk}} \sum_{jk} f_j f_k \quad ,$$

where the sum includes N_{jk} pairs of measurements with

$$\tau - \frac{\Delta\tau}{2} < \tau_{jk} < \tau + \frac{\Delta\tau}{2} \quad .$$

The block anomalies are obtained by averaging the unit anomalies. The mean anomalies for blocks that include no measured $1° \times 1°$ mean anomalies cannot be estimated by this procedure.

2. THE 1° × 1° DATA

We obtained four sets of 1° × 1° mean free-air gravity anomalies. A set of 29,209 measured 1° × 1° means was obtained from the Defense Mapping Agency Aerospace Center (DMAAC) (1973). A set of 1454 1° × 1° means for Australia was obtained from Mather (1970). Two sets of 1° × 1° means were obtained from Talwani: 4250 1° × 1° means for North America and the North Atlantic (Talwani, Poppe, and Rabinowitz, 1972), and 3944 1° × 1° means for the Indian Ocean (Kahle and Talwani, 1973). The sets of data were combined, the Mather and the Talwani data were used for regions when available. The combined set has measured values for 31,654 of the 64,800 1° × 1° areas. Figure 1 is a map showing the distribution of the data.

The DMAAC data were compared with the other sets of data and with a previous compilation by the Aeronautical Chart and Information Center (ACIC) (1971) at common points. Table 1 shows the results of these comparisons.

Table 1. Comparison of 1° × 1° mean gravity anomalies with DMAAC (1973).

Data	Number of points compared	Mean difference (mgal)	RMS (mgal)
Australia (Mather, 1970)	1364	1.64	24.16
North America and the North Atlantic (Talwani et al., 1972)	3613	-0.18	15.29
Indian Ocean (Kahle and Talwani, 1973)	2226	-1.66	23.09
Worldwide (ACIC, 1971)	19,164	-0.23	16.99

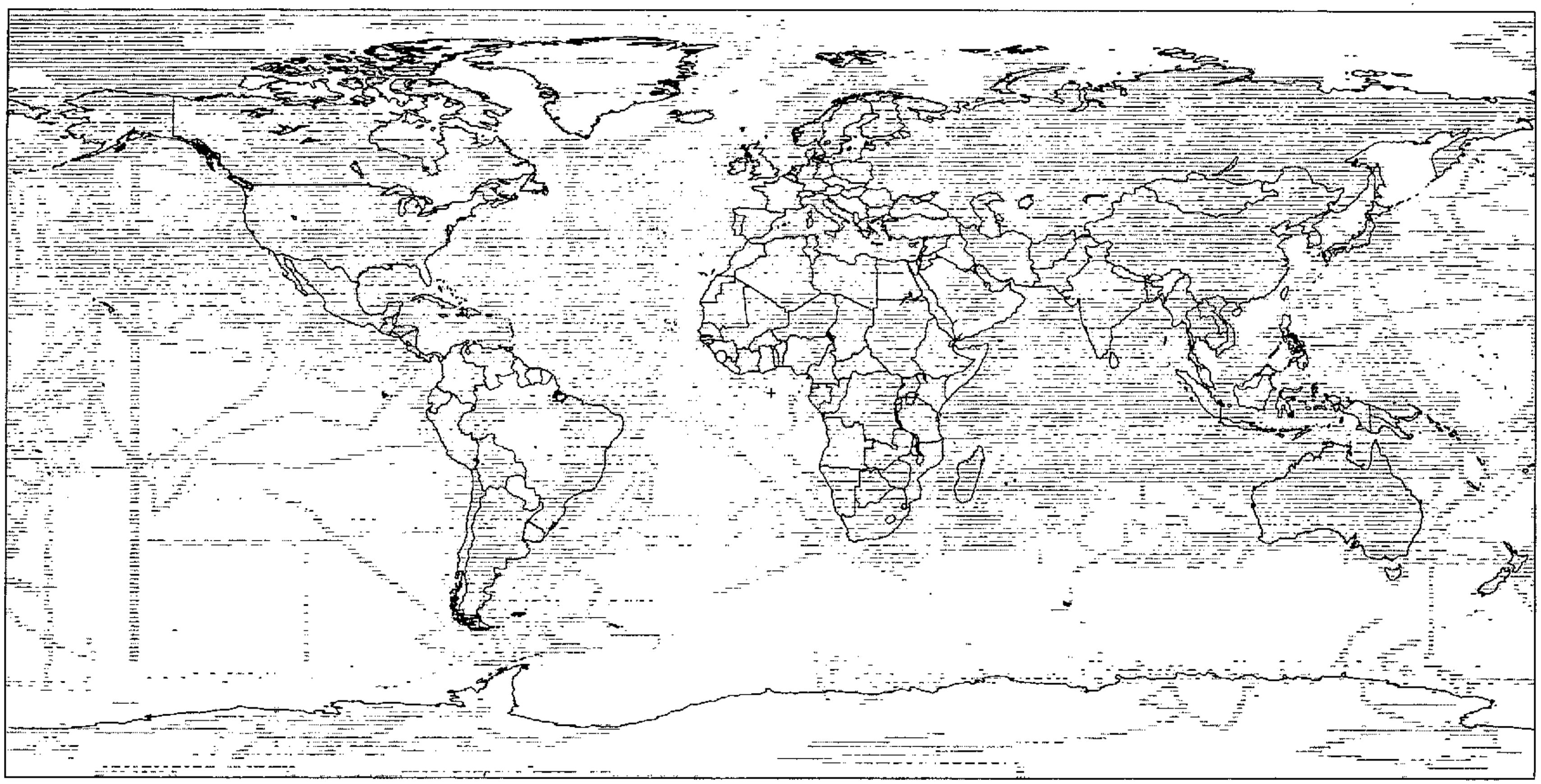

Figure 1. Distribution of 1° × 1° mean surface-gravity data.

3. THE BLOCK GRAVITY ANOMALY ESTIMATES

The estimates were obtained with the procedure described in Section 1 by using the composite data set described in Section 2.

The reference ellipsoid used in the calculation is the Geodetic Reference System of 1967 (International Union of Geodesy and Geophysics, 1967). A reference ellipsoid is determined by the geocentric gravitational constant GM, the rotation rate of the earth ω, the semimajor axis of the earth a, and the dynamical form factor J_2. The 1967 system is defined by the ellipsoid

$$GM = 3.98603 \times 10^{20} \text{ cm}^3 \text{ sec}^{-2} ,$$

$$\omega = 7.292\ 115\ 1467 \times 10^{-5} \text{ rad sec}^{-1} ,$$

$$a = 6.378160 \times 10^{8} \text{ cm} ,$$

$$J_2 = 0.001\ 0827 .$$

From these quantities, the flattening f is determined to be

$$f = 1/298.247\ 167\ 427 .$$

A formula for the reference gravity γ as a function of latitude ϕ is

$$\gamma_{1967} = 978031.85\ (1 + 0.005\ 278\ 895 \sin^2 \phi + 0.000\ 023\ 462 \sin^4 \phi) \text{ mgal} .$$

This formula has an accuracy of 0.004 mgal. Another formula, which has an accuracy of 0.1 mgal, is

$$\gamma_{1967} = 978031.846\ (1 + 0.005\ 302\ 86 \sin^2 \phi + 5.82 \times 10^{-6} \sin^2 2\phi) .$$

The ACIC data were compiled using this reference system and the International Gravity Standardization Network, 1971 (Morelli and Gantar, 1974). The other data, however, are referred to the 1930 international gravity system and the Potsdam Network. To

convert these data to the 1967 system, a correction Δ must be added to the anomalies. The 1930 international gravity system is defined by the reference gravity

$$\gamma_{1930} = 978049.0\ (1 + 0.005\ 2884\ \sin^2\phi + 5.9 \times 10^{-6}\ \sin^2 2\phi)\ \text{mgal} \quad .$$

This reference gravity corresponds to an ellipsoid defined by (Heiskanen and Moritz, 1967)

$$GM = 3.986\ 329 \times 10^{20}\ \text{cm}^3\ \text{sec}^{-2} \quad ,$$

$$\omega = 0.729\ 211\ 510 \times 10^{-4}\ \text{rad sec}^{-1} \quad ,$$

$$a = 6.378\ 388 \times 10^{8}\ \text{cm} \quad ,$$

$$f = 1/297 \quad .$$

With the inclusion of the Potsdam correction of 14 mgal, the correction Δ is

$$\Delta = \gamma_{1930} - \gamma_{1967} - 14 \quad .$$

To an accuracy of 0.1 mgal

$$\Delta = 3.14 - 13.58\ \sin^2\phi + 0.02\ \sin^2 2\phi\ \text{mgal} \quad .$$

This formula was used to convert the $1^\circ \times 1^\circ$ mean anomalies to the 1967 system. If the anomalies are to be combined with satellite data, the effect of the atmosphere must be included. The surface gravity given by the anomalies is increased by 0.87 mgal to obtain the total gravitational force that influences satellite motion. This correction has not been made to the anomalies given in this report.

The covariance function is given in Figure 2 and Table 2. The covariance matrix is given in Table 3. The composite set of 31,654 $1^\circ \times 1^\circ$ mean anomalies provided 23,777 of the 41,350 unit mean anomalies. From these unit mean anomalies, the estimate procedure provided 1452 of the 1654 block anomalies. The block anomalies referred to the 1967 system are given in Table 4. A punched card deck can be provided on request.

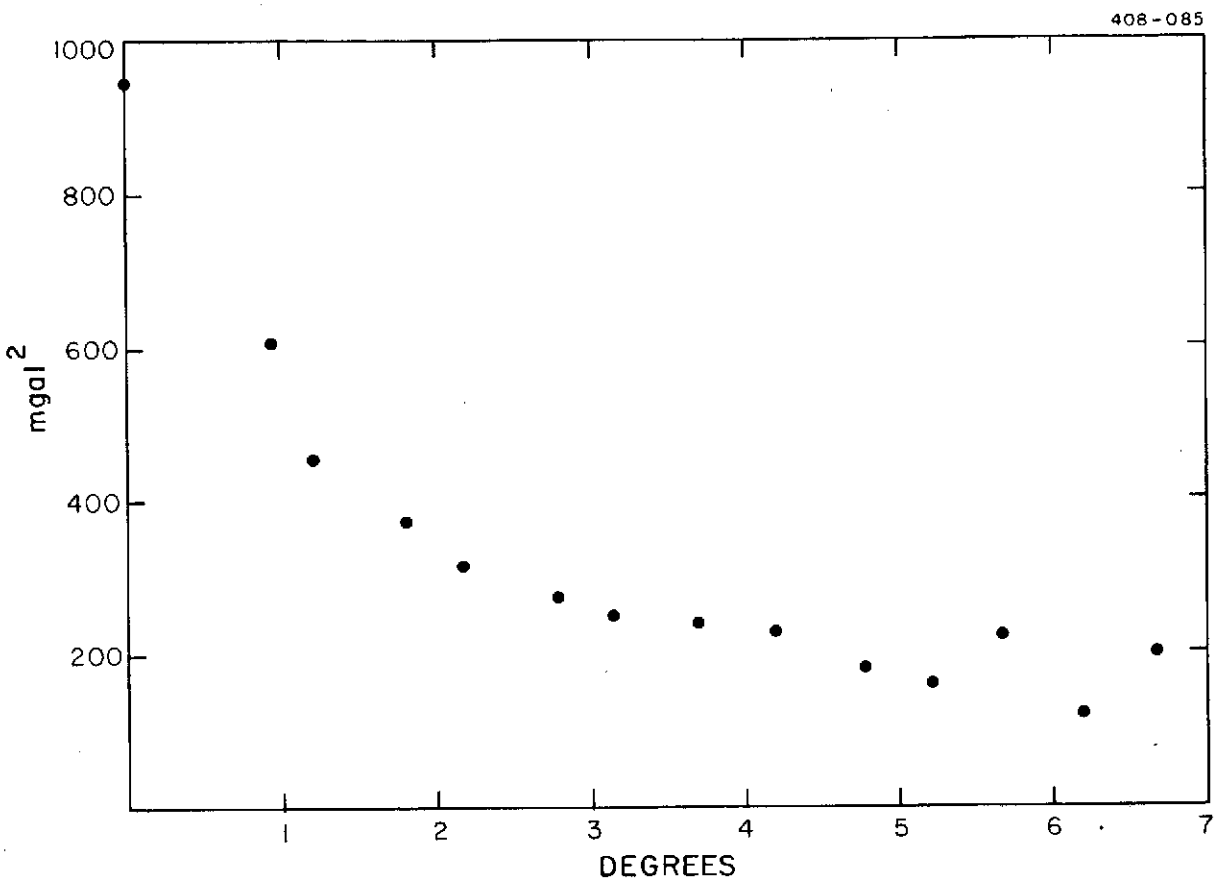

Figure 2. The block covariance function of unit gravity anomalies.

We compared these block anomalies with 1183 block anomalies calculated previously (Gaposchkin, 1973). The mean difference is 0.6 mgal and the RMS difference is 10 mgal.

Table 2. The block covariance function of unit gravity anomalies.

Average angular distance	Covariance function ($mgal^2$)
0°	948
0.29	1614
0.94	607
1.21	457
1.79	377
2.18	316
2.81	279
3.16	252
3.69	243
4.20	229
4.77	182
5.22	161
5.67	223
6.20	118
6.69	201

Table 3. The block covariance matrix.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02	2.3447E+02	5.7175E+02	4.2864E+02	3.1291E+02	2.5177E+02	2.3121E+02	3.4442E+02	3.1291E+02	2.7692E+02
2	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	3.1291E+02	3.4442E+02	3.1291E+02
3	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.7692E+02	3.1291E+02	3.4442E+02
4	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	2.4411E+02	2.7692E+02	3.1291E+02
5	2.3447E+02	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02	2.3121E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	2.0662E+02	2.4411E+02	2.7692E+02
6	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	2.3121E+02	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02	2.3447E+02	5.7175E+02	4.2863E+02	3.1291E+02
7	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02	4.2863E+02	5.7175E+02	4.2863E+02
8	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02	3.1291E+02	4.2863E+02	5.7175E+02
9	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02	2.5177E+02	3.1291E+02	4.2863E+02
10	2.3121E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	2.3447E+02	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02	2.3121E+02	2.5177E+02	3.1291E+02
11	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	2.0662E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	2.3121E+02	9.4826E+02	5.7175E+02	3.4442E+02
12	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	5.7175E+02	9.4826E+02	5.7175E+02
13	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	3.4442E+02	5.7175E+02	9.4826E+02
14	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	2.6393E+02	3.4442E+02	5.7175E+02
15	2.0662E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02	2.3121E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	2.3447E+02	2.6393E+02	3.4442E+02
16	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02	1.7123E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	2.0662E+02	5.7175E+02	4.2863E+02	3.1291E+02
17	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	4.2863E+02	5.7175E+02	4.2863E+02
18	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02	3.1291E+02	4.2863E+02	5.7175E+02
19	2.2541E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.5177E+02	3.1291E+02	4.2863E+02
20	1.7123E+02	2.2541E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.0662E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02	2.3121E+02	2.5177E+02	3.1291E+02
21	2.3447E+02	2.3121E+02	2.0662E+02	1.7123E+02	2.2093E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02	1.7123E+02	3.4442E+02	3.1291E+02	2.7692E+02
22	2.3121E+02	2.3447E+02	2.3121E+02	2.0662E+02	1.7123E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02	3.1291E+02	3.4442E+02	3.1291E+02
23	2.0662E+02	2.3121E+02	2.3447E+02	2.3121E+02	2.0662E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02
24	1.7123E+02	2.0662E+02	2.3121E+02	2.3447E+02	2.3121E+02	2.2541E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.7692E+02	3.1291E+02
25	2.2093E+02	1.7123E+02	2.0662E+02	2.3121E+02	2.3447E+02	1.7123E+02	2.2541E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.0662E+02	2.4411E+02	2.7692E+02

	14	15	16	17	18	19	20	21	22	23	24	25
1	2.4411E+02	2.0662E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02	1.7123E+02	2.3447E+02	2.3121E+02	2.0662E+02	1.7123E+02	2.2093E+02
2	2.7692E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02	2.3121E+02	2.3447E+02	2.3121E+02	2.0662E+02	1.7123E+02
3	3.1291E+02	2.7692E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.0662E+02	2.3121E+02	2.3447E+02	2.3121E+02	2.0662E+02
4	3.4442E+02	3.1291E+02	2.2541E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	1.7123E+02	2.0662E+02	2.3121E+02	2.3447E+02	2.3121E+02
5	3.1291E+02	3.4442E+02	1.7123E+02	2.2541E+02	2.4411E+02	2.5177$+02	2.6393E+02	2.2093E+02	1.7123E+02	2.0662E+02	2.3121E+02	2.3447E+02
6	2.5177E+02	2.3121E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	2.0662E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02	1.7123E+02
7	3.1291E+02	2.5177E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02	2.2541E+02
8	4.2863E+02	3.1291E+02	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02	2.4411E+02
9	5.7175E+02	4.2863E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.2541E+02	2.4411E+02	2.5177E+02	2.6393E+02	2.5177E+02
10	4.2863E+02	5.7175E+02	2.0662E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02	1.7123E+02	2.2541E+02	2.4411E+02	2.5177E+02	2.6393E+02
11	2.6393E+02	2.3447E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	2.3121E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02	2.0662E+02
12	3.4442E+02	2.6393E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02	2.4411E+02
13	5.7175E+02	3.4442E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02
14	9.4826E+02	5.7175E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	2.7692E+02	3.1291E+02	3.4442E+02	3.1291E+02	2.7692E+02
15	5.7175E+02	9.4826E+02	2.3121E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	2.0662E+02	2.4411E+02	2.7692E+02	3.1291E+02	3.4442E+02
16	2.5177E+02	2.3121E+02	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02	2.3447E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	2.3121E+02
17	3.1291E+02	2.5177E+02	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02
18	4.2863E+02	3.1291E+02	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02
19	5.7175E+02	4.2863E+02	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02
20	4.2863E+02	5.7175E+02	2.3447E+02	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02	2.3121E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02
21	2.4411E+02	2.0662E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	2.3121E+02	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02	2.3447E+02
22	2.7692E+02	2.4411E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	2.5177E+02	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02	2.6393E+02
23	3.1291E+02	2.7692E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	3.1291E+02	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02	3.4442E+02
24	3.4442E+02	3.1291E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	4.2863E+02	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02	5.7175E+02
25	3.1291E+02	3.4442E+02	2.3121E+02	2.5177E+02	3.1291E+02	4.2863E+02	5.7175E+02	2.3447E+02	2.6393E+02	3.4442E+02	5.7175E+02	9.4826E+02

Table 4. Estimated block gravity anomalies referred to the 1967 system.

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
87.5	61.0	26.163	3.163	3
87.5	181.0	26.163	6.664	13
87.5	301.0	26.163	6.877	17
82.5	21.0	26.097	13.526	7
82.5	61.0	26.097	40.383	1
82.5	141.0	26.097	1.472	1
82.5	181.0	26.097	-.361	24
82.5	221.0	26.097	6.909	20
82.5	261.0	26.097	5.634	7
82.5	301.0	26.097	4.788	11
82.5	341.0	26.097	15.954	10
77.5	12.5	24.883	20.491	19
77.5	35.0	23.801	4.523	4
77.5	57.5	24.883	-6.453	14
77.5	80.0	23.801	-13.101	6
77.5	102.5	24.883	-8.351	12
77.5	125.0	23.801	-19.325	1
77.5	147.5	24.883	-40.616	1
77.5	170.0	23.801	-4.500	7
77.5	192.5	24.883	5.712	24
77.5	215.0	23.801	-12.206	25
77.5	237.5	24.883	-1.192	25
77.5	260.0	23.801	-9.601	25
77.5	282.5	24.883	1.372	16
77.5	305.0	23.801	14.815	10
77.5	327.5	24.883	-13.899	7
77.5	350.0	23.801	11.142	11
72.5	9.0	24.049	27.031	16
72.5	25.5	25.552	2.354	21
72.5	42.0	24.049	.817	2
72.5	58.0	24.049	-5.043	25
72.5	74.5	25.552	-16.644	17
72.5	91.0	24.049	-11.663	25
72.5	107.5	25.552	-11.210	25
72.5	124.0	24.049	8.327	25
72.5	173.0	24.049	-1.474	1
72.5	189.0	24.049	-2.966	18
72.5	205.5	25.552	-14.557	25
72.5	222.0	24.049	-9.257	25
72.5	238.0	24.049	-18.936	15
72.5	254.5	25.552	-12.337	9
72.5	271.0	24.049	-7.940	23
72.5	287.5	25.552	-7.307	10
72.5	304.0	24.049	-6.643	9
72.5	320.0	24.049	24.498	8
72.5	336.5	25.552	32.245	12
72.5	353.0	24.049	27.458	6
67.5	7.5	24.867	12.480	25
67.5	20.5	24.867	1.207	25
67.5	33.5	24.867	4.147	25
67.5	46.0	22.954	1.727	25
67.5	58.5	24.867	1.367	25
67.5	71.5	24.867	-21.387	25
67.5	84.5	24.867	-12.207	25
67.5	97.5	24.867	-13.247	25
67.5	110.5	24.867	-21.280	25
67.5	123.5	24.867	-16.007	25
67.5	136.0	22.954	4.667	25
67.5	148.5	24.867	10.400	25
67.5	161.5	24.867	14.533	25
67.5	174.5	24.867	19.947	25
67.5	187.5	24.867	1.820	25
67.5	200.5	24.867	.891	22
67.5	213.5	24.867	21.233	25
67.5	226.0	22.954	3.513	23
67.5	238.5	24.867	-1.027	25
67.5	251.5	24.867	-25.347	25
67.5	264.5	24.867	-23.349	8
67.5	277.5	24.867	-30.424	5
67.5	290.5	24.867	-15.959	21
67.5	303.5	24.867	-11.726	13
67.5	316.0	22.954	3.404	2
67.5	328.5	24.867	29.050	4
67.5	341.5	24.867	36.320	16
67.5	354.5	24.867	11.360	3
62.5	6.5	25.388	12.593	25
62.5	17.5	25.388	-12.067	25
62.5	28.5	25.388	-4.713	25
62.5	39.5	25.388	5.360	25
62.5	50.5	25.388	2.547	25
62.5	61.0	23.080	3.740	25
62.5	71.5	25.388	-22.580	25
62.5	82.5	25.388	-18.113	25
62.5	93.5	25.388	-32.280	25
62.5	104.5	25.388	-35.047	25
62.5	115.5	25.388	-25.673	25
62.5	126.5	25.388	-21.300	25
62.5	137.5	25.388	2.087	25
62.5	148.5	25.388	21.647	25
62.5	159.5	25.388	18.947	24
62.5	170.5	25.388	27.344	22
62.5	181.0	23.080	17.808	4
62.5	191.5	25.388	1.371	22
62.5	202.5	25.388	19.781	19
62.5	213.5	25.388	29.153	25
62.5	224.5	25.388	23.545	10
62.5	235.5	25.388	3.272	17
62.5	246.5	25.388	-19.113	25
62.5	257.5	25.388	-34.013	25
62.5	268.5	25.388	-38.801	16
62.5	279.5	25.388	-13.465	6
62.5	290.5	25.388	-3.901	14
62.5	311.5	25.388	-30.043	9
62.5	322.5	25.388	10.912	3
62.5	333.5	25.388	36.949	14
62.5	344.5	25.388	25.470	12
62.5	355.5	25.388	13.634	13
57.5	5.5	24.171	3.880	25
57.5	14.5	24.171	-3.280	25
57.5	24.0	26.856	-13.431	22
57.5	33.5	24.171	4.940	25
57.5	42.5	24.171	3.320	25
57.5	51.5	24.171	1.380	25
57.5	61.0	26.856	7.500	25
57.5	70.5	24.171	-16.900	25
57.5	79.5	24.171	-15.940	25
57.5	88.5	24.171	-19.900	25
57.5	98.0	26.856	-27.100	25
57.5	107.5	24.171	-17.880	25
57.5	116.5	24.171	-37.340	25
57.5	125.5	24.171	-29.540	25
57.5	134.5	24.171	-6.320	25
57.5	144.0	26.856	6.112	5
57.5	153.5	24.171	21.621	6
57.5	162.5	24.171	30.330	19
57.5	171.5	24.171	9.749	8
57.5	181.0	26.856	-13.356	17
57.5	190.5	24.171	10.828	19
57.5	199.5	24.171	33.372	20
57.5	208.5	24.171	9.713	24
57.5	218.0	26.856	7.030	17
57.5	227.5	24.171	20.092	19
57.5	236.5	24.171	11.064	18
57.5	245.5	24.171	-6.140	25
57.5	254.5	24.171	-12.800	25
57.5	264.0	26.856	-29.220	25
57.5	273.5	24.171	-40.080	25
57.5	282.5	24.171	-33.700	25
57.5	291.5	24.171	-28.000	25
57.5	301.0	26.856	-10.900	25
57.5	310.5	24.171	14.200	25
57.5	319.5	24.171	22.600	25
57.5	328.5	24.171	32.627	18
57.5	338.0	26.856	12.350	7
57.5	347.5	24.171	6.605	13
57.5	356.5	24.171	13.943	24
52.5	5.0	24.343	-3.160	25
52.5	13.0	24.343	9.620	25
52.5	21.5	27.386	1.140	25
52.5	30.0	24.343	4.060	25
52.5	38.0	24.343	3.100	25
52.5	46.0	24.343	-1.040	25
52.5	54.0	24.343	-5.700	25
52.5	62.0	24.343	3.400	25
52.5	70.5	27.386	-5.340	25
52.5	79.0	24.343	-20.900	25
52.5	87.0	24.343	-7.280	25
52.5	95.0	24.343	-24.480	25
52.5	103.0	24.343	-26.440	25
52.5	111.5	27.386	-7.880	25
52.5	120.0	24.343	-4.120	25
52.5	128.0	24.343	10.060	25
52.5	136.0	24.343	29.520	25
52.5	144.0	24.343	24.412	14
52.5	160.5	27.386	30.041	15
52.5	169.0	24.343	3.199	4
52.5	177.0	24.343	11.188	16
52.5	185.0	24.343	-21.199	23
52.5	193.0	24.343	7.200	25
52.5	201.5	27.386	15.580	25
52.5	210.0	24.343	9.087	8
52.5	218.0	24.343	4.996	10
52.5	226.0	24.343	-5.587	18

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
52.5	234.0	24.343	4.971	24
52.5	242.0	24.343	1.885	24
52.5	250.5	27.386	.020	25
52.5	259.0	24.343	-2.400	25
52.5	267.0	24.343	-10.500	25
52.5	275.0	24.343	-25.220	25
52.5	283.0	24.343	-30.380	25
52.5	291.5	27.386	-15.940	25
52.5	300.0	24.343	-14.420	25
52.5	308.0	24.343	16.400	25
52.5	316.0	24.343	22.800	25
52.5	324.0	24.343	35.493	22
52.5	332.0	24.343	20.125	6
52.5	340.5	27.386	2.299	4
52.5	349.0	24.343	15.786	18
52.5	357.0	24.343	10.929	24
47.5	4.5	23.638	12.560	25
47.5	12.0	27.015	14.700	25
47.5	19.5	23.638	21.620	25
47.5	26.5	23.638	13.740	25
47.5	34.0	27.015	7.800	25
47.5	41.5	23.638	-2.920	25
47.5	48.5	23.638	-20.580	25
47.5	56.0	27.015	-19.220	25
47.5	63.5	23.638	-10.420	25
47.5	70.5	23.638	-13.280	25
47.5	78.0	27.015	-27.660	25
47.5	85.5	23.638	-30.540	25
47.5	93.0	27.015	-15.640	25
47.5	100.5	23.638	-16.200	25
47.5	107.5	23.638	-.600	25
47.5	115.0	27.015	-1.680	25
47.5	122.5	23.638	7.880	25
47.5	129.5	23.638	19.620	25
47.5	137.0	27.015	32.592	23
47.5	144.5	23.638	25.799	8
47.5	151.5	23.638	-65.780	2
47.5	159.0	27.015	30.961	10
47.5	166.5	23.638	-4.677	7
47.5	173.5	23.638	11.130	4
47.5	181.0	27.015	15.301	12
47.5	188.5	23.638	22.466	15
47.5	195.5	23.638	11.726	18
47.5	203.0	27.015	11.103	19
47.5	210.5	23.638	-11.584	12
47.5	217.5	23.638	-12.534	6
47.5	225.0	27.015	-7.556	15
47.5	232.5	23.638	-9.840	25
47.5	239.5	23.638	-1.260	25
47.5	247.0	27.015	13.020	25
47.5	254.5	23.638	16.680	25
47.5	261.5	23.638	7.420	25
47.5	269.0	27.015	1.000	25
47.5	276.5	23.638	-9.220	25
47.5	284.0	27.015	-16.720	25
47.5	291.5	23.638	-8.740	25
47.5	298.5	23.638	-9.880	25
47.5	306.0	27.015	7.060	25
47.5	313.5	23.638	16.640	25
47.5	320.5	23.638	11.800	25
47.5	328.0	27.015	25.753	22
47.5	335.5	23.638	32.368	17
47.5	342.5	23.638	14.759	19
47.5	350.0	27.015	.740	25
47.5	357.5	23.638	1.580	25
42.5	4.5	25.797	13.020	25
42.5	11.5	25.797	10.503	24
42.5	18.0	22.111	31.198	21
42.5	24.5	25.797	18.628	23
42.5	31.5	25.797	-.760	25
42.5	38.5	25.797	-2.320	25
42.5	45.5	25.797	13.340	25
42.5	52.0	22.111	-18.120	25
42.5	58.5	25.797	-7.400	25
42.5	65.5	25.797	-23.000	25
42.5	72.5	25.797	-24.420	25
42.5	79.5	25.797	-13.680	25
42.5	86.0	22.111	-22.300	25
42.5	92.5	25.797	-28.900	25
42.5	99.5	25.797	.520	25
42.5	106.5	25.797	1.520	25
42.5	113.0	22.111	2.200	25
42.5	119.5	25.797	8.560	25
42.5	126.5	25.797	25.260	25
42.5	133.5	25.797	18.842	13
42.5	140.5	25.797	22.059	18
42.5	147.0	22.111	-29.535	11
42.5	153.5	25.797	-13.402	7
42.5	160.5	25.797	1.191	6
42.5	167.5	25.797	11.573	5
42.5	174.5	25.797	-6.458	7
42.5	181.0	22.111	-9.348	11
42.5	187.5	25.797	-.781	11
42.5	194.5	25.797	-11.302	12
42.5	201.5	25.797	-.625	21
42.5	208.5	25.797	-6.667	14
42.5	215.0	22.111	-3.077	7
42.5	221.5	25.797	-13.659	14
42.5	228.5	25.797	-7.907	24
42.5	235.5	25.797	-5.000	25
42.5	242.5	25.797	11.980	25
42.5	249.0	22.111	16.300	25
42.5	255.5	25.797	14.080	25
42.5	262.5	25.797	-2.080	25
42.5	269.5	25.797	-8.560	25
42.5	276.0	22.111	-5.580	25
42.5	282.5	25.797	-5.700	25
42.5	289.5	25.797	3.960	25
42.5	296.5	25.797	-8.640	25
42.5	303.5	25.797	-15.760	25
42.5	310.0	22.111	9.180	25
42.5	316.5	25.797	.080	25
42.5	323.5	25.797	15.100	25
42.5	330.5	25.797	28.320	25
42.5	337.5	25.797	23.340	25
42.5	344.0	22.111	1.776	24
42.5	350.5	25.797	1.992	23
42.5	357.5	25.797	7.540	25
37.5	4.0	23.793	18.436	24
37.5	10.5	27.759	16.562	22
37.5	17.0	23.793	6.471	20
37.5	23.0	23.793	1.405	11
37.5	29.5	27.759	31.756	16
37.5	36.0	23.793	21.802	14
37.5	42.0	23.793	34.406	16
37.5	48.5	27.759	45.087	20
37.5	55.0	23.793	2.696	21
37.5	61.0	23.793	-14.420	25
37.5	67.0	23.793	-26.940	25
37.5	73.5	27.759	4.400	25
37.5	80.0	23.793	-6.020	25
37.5	86.0	23.793	-1.560	25
37.5	92.5	27.759	10.840	25
37.5	99.0	23.793	12.520	25
37.5	105.0	23.793	-22.900	25
37.5	111.5	27.759	-31.560	25
37.5	118.0	23.793	-12.500	25
37.5	124.0	23.793	14.156	17
37.5	130.5	27.759	25.487	15
37.5	137.0	23.793	34.001	14
37.5	143.0	23.793	20.100	25
37.5	149.5	27.759	1.209	6
37.5	156.0	23.793	-4.090	11
37.5	162.0	23.793	-8.487	14
37.5	168.5	27.759	14.285	7
37.5	175.0	23.793	-7.956	7
37.5	181.0	23.793	-10.443	9
37.5	187.0	23.793	-6.606	12
37.5	193.5	27.759	-9.748	16
37.5	200.0	23.793	-7.850	22
37.5	206.0	23.793	-5.574	23
37.5	212.5	27.759	-12.878	17
37.5	219.0	23.793	-17.172	21
37.5	225.0	23.793	-16.284	22
37.5	231.5	27.759	-23.060	25
37.5	238.0	23.793	-9.340	25
37.5	244.0	23.793	1.960	25
37.5	250.5	27.759	11.800	25
37.5	257.0	23.793	3.840	25
37.5	263.0	23.793	-11.520	25
37.5	269.5	27.759	-2.120	25
37.5	276.0	23.793	-4.500	25
37.5	282.0	23.793	1.320	25
37.5	288.5	27.759	-21.760	25
37.5	295.0	23.793	-21.280	25
37.5	301.0	23.793	-17.120	25
37.5	307.0	23.793	-11.360	25
37.5	313.5	27.759	-4.720	25
37.5	320.0	23.793	9.360	25
37.5	326.0	23.793	41.020	25
37.5	332.5	27.759	39.520	25
37.5	339.0	23.793	1.796	22
37.5	345.0	23.793	7.236	16
37.5	351.5	27.759	15.594	20
37.5	358.0	23.793	13.720	25
32.5	4.0	25.294	-2.480	25

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
32.5	10.0	25.294	-2.169	20
32.5	16.0	25.294	3.548	17
32.5	22.0	25.294	3.855	16
32.5	28.0	25.294	-30.756	20
32.5	33.5	21.078	2.559	21
32.5	39.0	25.294	27.066	15
32.5	45.0	25.294	-20.260	13
32.5	51.0	25.294	14.820	25
32.5	57.0	25.294	24.260	25
32.5	63.0	25.294	25.360	25
32.5	69.0	25.294	1.620	25
32.5	75.0	25.294	-9.000	25
32.5	81.0	25.294	35.940	25
32.5	87.0	25.294	22.300	25
32.5	92.5	21.078	10.400	25
32.5	98.0	25.294	10.480	25
32.5	104.0	25.294	-26.280	25
32.5	110.0	25.294	-36.920	25
32.5	116.0	25.294	-15.580	25
32.5	122.0	25.294	1.601	13
32.5	128.0	25.294	22.193	16
32.5	134.0	25.294	3.026	21
32.5	140.0	25.294	-28.918	20
32.5	146.0	25.294	4.596	15
32.5	151.5	21.078	-5.479	14
32.5	157.0	25.294	-5.064	17
32.5	163.0	25.294	-14.132	16
32.5	169.0	25.294	-19.521	8
32.5	175.0	25.294	-11.407	4
32.5	181.0	25.294	-10.656	9
32.5	187.0	25.294	-14.512	16
32.5	193.0	25.294	-11.907	20
32.5	199.0	25.294	-10.860	25
32.5	205.0	25.294	-4.748	23
32.5	210.5	21.078	-6.558	21
32.5	216.0	25.294	-18.931	17
32.5	222.0	25.294	-11.064	21
32.5	228.0	25.294	-18.084	22
32.5	234.0	25.294	-22.101	22
32.5	240.0	25.294	-20.574	24
32.5	246.0	25.294	-7.120	25
32.5	252.0	25.294	4.760	25
32.5	258.0	25.294	-4.360	25
32.5	264.0	25.294	-6.120	25
32.5	269.5	21.078	-.120	25
32.5	275.0	25.294	1.760	25
32.5	281.0	25.294	-9.560	25
32.5	287.0	25.294	-39.700	25
32.5	293.0	25.294	-18.040	25
32.5	299.0	25.294	-13.160	25
32.5	305.0	25.294	-9.100	25
32.5	311.0	25.294	3.120	25
32.5	317.0	25.294	14.960	25
32.5	323.0	25.294	23.610	24
32.5	328.5	21.078	14.017	17
32.5	334.0	25.294	23.437	12
32.5	340.0	25.294	6.405	21
32.5	346.0	25.294	17.294	19
32.5	352.0	25.294	27.790	23
32.5	358.0	25.294	34.900	25

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
27.5	4.0	26.602	-6.000	25
27.5	9.5	22.168	1.511	19
27.5	15.0	26.602	7.828	14
27.5	21.0	26.602	5.147	20
27.5	26.5	22.168	1.148	10
27.5	32.0	26.602	-8.454	17
27.5	37.5	22.168	-4.246	8
27.5	43.0	26.602	16.333	20
27.5	49.0	26.602	-25.345	23
27.5	54.5	22.168	-8.520	25
27.5	60.0	26.602	28.260	25
27.5	66.0	26.602	1.200	25
27.5	71.5	22.168	-6.520	25
27.5	77.0	26.602	-21.500	25
27.5	82.5	22.168	-68.840	25
27.5	88.0	26.602	3.360	25
27.5	94.0	26.602	-32.820	25
27.5	99.5	22.168	-6.120	25
27.5	105.0	26.602	-25.400	25
27.5	111.0	26.602	-22.400	25
27.5	116.5	22.168	-7.720	25
27.5	122.0	26.602	22.845	18
27.5	127.5	22.168	22.191	12
27.5	133.0	26.602	-2.806	5
27.5	139.0	26.602	26.396	13
27.5	144.5	22.168	26.251	9
27.5	150.0	26.602	-.979	4
27.5	156.0	26.602	-14.195	14
27.5	161.5	22.168	-11.702	12
27.5	167.0	26.602	-9.506	13
27.5	172.5	22.168	-3.923	10
27.5	178.0	26.602	-4.102	8
27.5	184.0	26.602	1.326	10
27.5	189.5	22.168	6.396	23
27.5	195.0	26.602	5.068	24
27.5	201.0	26.602	2.740	25
27.5	206.5	22.168	-6.312	19
27.5	212.0	26.602	-7.132	22
27.5	217.5	22.168	-.994	18
27.5	223.0	26.602	-8.849	10
27.5	229.0	26.602	-21.411	16
27.5	234.5	22.168	-22.400	25
27.5	240.0	26.602	-18.880	25
27.5	246.0	26.602	-19.600	25
27.5	251.5	22.168	3.680	25
27.5	257.0	26.602	12.720	25
27.5	262.5	22.168	-11.360	25
27.5	268.0	26.602	-11.080	25
27.5	274.0	26.602	-4.440	25
27.5	279.5	22.168	2.560	25
27.5	285.0	26.602	-27.880	25
27.5	291.0	26.602	-29.740	25
27.5	296.5	22.168	-25.200	25
27.5	302.0	26.602	-28.220	25
27.5	307.5	22.168	-18.720	25
27.5	313.0	26.602	3.880	25
27.5	319.0	26.602	14.600	25
27.5	324.5	22.168	1.760	25
27.5	330.0	26.602	7.414	23

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
27.5	336.0	26.602	-5.934	20
27.5	341.5	22.168	19.859	20
27.5	347.0	26.602	11.972	19
27.5	352.5	22.168	6.074	20
27.5	358.0	26.602	-6.543	18
22.5	3.5	23.090	25.680	25
22.5	9.0	27.708	23.840	25
22.5	14.5	23.090	4.080	25
22.5	19.5	23.090	4.280	25
22.5	25.0	27.708	-17.004	10
22.5	30.5	23.090	13.394	9
22.5	36.0	27.708	7.275	21
22.5	41.5	23.090	29.457	21
22.5	46.5	23.090	-2.210	20
22.5	52.0	27.708	-31.025	19
22.5	57.5	23.090	-23.550	5
22.5	62.5	23.090	-16.720	25
22.5	68.0	27.708	-1.820	25
22.5	73.5	23.090	3.320	25
22.5	79.0	27.708	7.080	25
22.5	84.5	23.090	7.445	24
22.5	89.5	23.090	-12.627	22
22.5	95.0	27.708	-23.200	25
22.5	100.5	23.090	-20.920	25
22.5	105.5	23.090	-17.600	25
22.5	111.0	27.708	-8.764	22
22.5	116.5	23.090	-1.347	13
22.5	122.0	27.708	-4.896	15
22.5	127.5	23.090	3.878	15
22.5	132.5	23.090	1.602	12
22.5	138.0	27.708	1.645	4
22.5	143.5	23.090	3.978	4
22.5	148.5	23.090	22.928	1
22.5	154.0	27.708	6.144	7
22.5	159.5	23.090	-15.564	6
22.5	165.0	27.708	-10.726	4
22.5	170.5	23.090	-5.308	5
22.5	175.5	23.090	-12.113	9
22.5	181.0	27.708	-5.330	18
22.5	186.5	23.090	3.859	15
22.5	191.5	23.090	19.248	18
22.5	197.0	27.708	11.687	18
22.5	202.5	23.090	28.143	23
22.5	208.0	27.708	-1.558	22
22.5	213.5	23.090	-6.001	14
22.5	218.5	23.090	-4.829	15
22.5	224.0	27.708	-9.995	12
22.5	229.5	23.090	-12.710	14
22.5	234.5	23.090	-14.728	6
22.5	240.0	27.708	-20.497	17
22.5	245.5	23.090	-9.240	25
22.5	251.0	27.708	-14.320	25
22.5	256.5	23.090	18.680	25
22.5	261.5	23.090	10.880	25
22.5	267.0	27.708	-24.040	25
22.5	272.5	23.090	10.200	25
22.5	277.5	23.090	-15.960	25
22.5	283.0	27.708	-10.780	25
22.5	288.5	23.090	-59.080	25

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
22.5	294.0	27.708	-23.420	25
22.5	299.5	23.090	-26.600	25
22.5	304.5	23.090	-24.040	25
22.5	310.0	27.708	-19.800	25
22.5	315.5	23.090	-.680	25
22.5	320.5	23.090	-4.800	25
22.5	326.0	27.708	1.620	25
22.5	331.5	23.090	3.920	25
22.5	337.0	27.708	-2.940	25
22.5	342.5	23.090	3.081	23
22.5	347.5	23.090	.221	21
22.5	353.0	27.708	-13.426	16
22.5	358.5	23.090	1.942	18
17.5	3.5	23.835	7.800	25
17.5	8.5	23.835	10.000	25
17.5	14.0	28.602	-2.680	25
17.5	19.5	23.835	-5.600	25
17.5	24.5	23.835	9.875	24
17.5	29.5	23.835	12.000	25
17.5	35.0	28.602	17.326	23
17.5	40.5	23.835	10.105	19
17.5	45.5	23.835	6.041	12
17.5	50.5	23.835	-22.104	12
17.5	55.5	23.835	13.657	13
17.5	61.0	28.602	-27.240	25
17.5	66.5	23.835	-18.200	25
17.5	71.5	23.835	-28.421	24
17.5	76.5	23.835	-14.400	25
17.5	81.5	23.835	1.786	23
17.5	87.0	28.602	-28.544	23
17.5	92.5	23.835	-7.267	24
17.5	97.5	23.835	-11.170	24
17.5	102.5	23.835	-14.321	24
17.5	108.0	28.602	1.115	19
17.5	113.5	23.835	-2.293	1
17.5	118.5	23.835	29.496	11
17.5	123.5	23.835	24.337	10
17.5	128.5	23.835	2.544	2
17.5	134.0	28.602	8.939	8
17.5	139.5	23.835	14.047	19
17.5	144.5	23.835	29.017	12
17.5	149.5	23.835	8.239	4
17.5	155.0	28.602	-17.059	2
17.5	160.5	23.835	-8.308	5
17.5	165.5	23.835	-2.341	6
17.5	170.5	23.835	-12.842	12
17.5	175.5	23.835	-8.561	10
17.5	181.0	28.602	2.897	11
17.5	186.5	23.835	1.182	7
17.5	191.5	23.835	-7.318	10
17.5	196.5	23.835	.564	6
17.5	201.5	23.835	10.137	17
17.5	207.0	28.602	6.290	18
17.5	212.5	23.835	3.575	10
17.5	217.5	23.835	-9.049	5
17.5	222.5	23.835	-10.541	8
17.5	228.0	28.602	-13.978	7
17.5	233.5	23.835	-19.452	24
17.5	238.5	23.835	-21.649	22
17.5	243.5	23.835	-17.680	25
17.5	248.5	23.835	-11.440	25
17.5	254.0	28.602	-10.720	25
17.5	259.5	23.835	-2.160	25
17.5	264.5	23.835	12.760	25
17.5	269.5	23.835	21.640	25
17.5	275.0	28.602	3.480	25
17.5	280.5	23.835	8.320	25
17.5	285.5	23.835	-3.840	25
17.5	290.5	23.835	-18.480	25
17.5	295.5	23.835	-38.560	25
17.5	301.0	28.602	-34.480	25
17.5	306.5	23.835	-20.120	25
17.5	311.5	23.835	-17.960	25
17.5	316.5	23.835	-11.320	25
17.5	321.5	23.835	-15.400	25
17.5	327.0	28.602	4.501	14
17.5	332.5	23.835	12.215	15
17.5	337.5	23.835	17.557	22
17.5	342.5	23.835	.203	20
17.5	348.0	28.602	15.180	19
17.5	353.5	23.835	4.953	11
17.5	358.5	23.835	9.056	24
12.5	3.5	24.400	.932	19
12.5	8.5	24.400	14.321	18
12.5	13.5	24.400	9.016	22
12.5	19.0	29.280	3.600	25
12.5	24.5	24.400	12.723	24
12.5	29.5	24.400	14.200	25
12.5	34.5	24.400	13.760	25
12.5	39.5	24.400	25.862	24
12.5	44.5	24.400	-3.443	19
12.5	49.5	24.400	2.400	22
12.5	55.0	29.280	-6.340	25
12.5	60.5	24.400	-22.200	25
12.5	65.5	24.400	-24.160	25
12.5	70.5	24.400	-34.440	25
12.5	75.5	24.400	-25.243	24
12.5	80.5	24.400	-42.756	23
12.5	85.5	24.400	-29.760	25
12.5	91.0	29.280	-13.500	25
12.5	96.5	24.400	-1.400	25
12.5	101.5	24.400	-7.748	19
12.5	106.5	24.400	1.880	25
12.5	111.5	24.400	-2.693	11
12.5	116.5	24.400	15.471	16
12.5	121.5	24.400	38.162	19
12.5	127.0	29.280	37.324	19
12.5	132.5	24.400	11.447	9
12.5	137.5	24.400	-1.481	11
12.5	142.5	24.400	-16.598	15
12.5	147.5	24.400	-21.761	19
12.5	152.5	24.400	-3.109	11
12.5	157.5	24.400	-5.423	8
12.5	163.0	29.280	-8.420	5
12.5	168.5	24.400	-7.956	2
12.5	178.5	24.400	28.955	7
12.5	188.5	24.400	-8.906	11
12.5	193.5	24.400	.471	12
12.5	199.0	29.280	3.984	17
12.5	209.5	24.400	-9.883	15
12.5	214.5	24.400	.259	16
12.5	219.5	24.400	-.317	12
12.5	224.5	24.400	-8.547	9
12.5	229.5	24.400	-8.237	6
12.5	235.0	29.280	-7.761	2
12.5	240.5	24.400	-20.435	15
12.5	245.5	24.400	-18.400	25
12.5	250.5	24.400	-9.960	25
12.5	255.5	24.400	1.760	25
12.5	260.5	24.400	13.640	25
12.5	265.5	24.400	.520	25
12.5	271.0	29.280	6.640	25
12.5	276.5	24.400	29.120	25
12.5	281.5	24.400	-.960	25
12.5	286.5	24.400	-23.320	25
12.5	291.5	24.400	-19.760	25
12.5	296.5	24.400	0.000	25
12.5	301.5	24.400	-42.240	25
12.5	307.0	29.280	-32.780	25
12.5	312.5	24.400	-24.880	25
12.5	317.5	24.400	-27.400	25
12.5	322.5	24.400	-24.400	25
12.5	327.5	24.400	-8.467	9
12.5	332.5	24.400	4.628	12
12.5	337.5	24.400	-9.928	14
12.5	343.0	29.280	3.039	16
12.5	348.5	24.400	12.847	15
12.5	353.5	24.400	11.080	25
12.5	358.5	24.400	2.080	25
7.5	3.5	24.778	14.644	15
7.5	8.5	24.778	33.616	20
7.5	13.5	24.778	18.400	25
7.5	18.5	24.778	2.040	25
7.5	23.5	24.778	13.440	25
7.5	28.5	24.778	13.200	25
7.5	33.5	24.778	20.578	24
7.5	39.0	29.734	27.518	20
7.5	44.5	24.778	11.875	11
7.5	49.5	24.778	-6.984	10
7.5	54.5	24.778	-27.840	25
7.5	59.5	24.778	-8.560	25
7.5	64.5	24.778	-29.320	25
7.5	69.5	24.778	-44.000	25
7.5	74.5	24.778	-36.240	25
7.5	79.5	24.778	-38.840	25
7.5	84.5	24.778	-43.520	25
7.5	89.5	24.778	3.400	25
7.5	94.5	24.778	-15.600	25
7.5	99.5	24.778	12.470	22
7.5	104.5	24.778	3.634	6
7.5	110.0	29.734	8.872	18
7.5	115.5	24.778	16.958	21
7.5	120.5	24.778	59.135	7
7.5	125.5	24.778	43.843	15
7.5	130.5	24.778	23.771	8
7.5	135.5	24.778	13.832	16
7.5	140.5	24.778	15.113	18

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
7.5	145.5	24.778	7.071	13
7.5	150.5	24.778	-2.344	13
7.5	155.5	24.778	32.560	4
7.5	170.5	24.778	81.709	1
7.5	181.0	29.734	8.956	7
7.5	186.5	24.778	-11.179	9
7.5	191.5	24.778	-1.825	17
7.5	196.5	24.778	2.131	7
7.5	201.5	24.778	18.397	13
7.5	206.5	24.778	4.312	3
7.5	211.5	24.778	-2.914	10
7.5	221.5	24.778	-.328	1
7.5	226.5	24.778	-8.309	5
7.5	231.5	24.778	-16.286	7
7.5	236.5	24.778	-9.142	12
7.5	241.5	24.778	-10.424	16
7.5	246.5	24.778	-8.402	12
7.5	252.0	29.734	.253	11
7.5	257.5	24.778	3.534	14
7.5	262.5	24.778	5.318	16
7.5	267.5	24.778	8.361	15
7.5	272.5	24.778	16.997	19
7.5	277.5	24.778	22.400	25
7.5	282.5	24.778	35.400	25
7.5	287.5	24.778	4.520	25
7.5	292.5	24.778	11.450	20
7.5	297.5	24.778	-11.901	11
7.5	302.5	24.778	-11.531	21
7.5	307.5	24.778	-23.376	22
7.5	312.5	24.778	-35.606	18
7.5	317.5	24.778	-18.395	19
7.5	323.0	29.734	-11.038	15
7.5	328.5	24.778	13.877	12
7.5	333.5	24.778	1.086	15
7.5	338.5	24.778	7.759	6
7.5	343.5	24.778	-2.098	17
7.5	348.5	24.778	27.081	17
7.5	353.5	24.778	23.560	25
7.5	358.5	24.778	18.120	25
2.5	3.5	24.968	13.752	6
2.5	8.5	24.968	18.230	15
2.5	13.5	24.968	12.680	25
2.5	18.5	24.968	-13.917	24
2.5	23.5	24.968	-14.520	25
2.5	28.5	24.968	10.879	23
2.5	33.5	24.968	5.160	25
2.5	38.5	24.968	7.089	20
2.5	43.5	24.968	3.364	9
2.5	48.5	24.968	-32.997	22
2.5	53.5	24.968	-19.400	25
2.5	58.5	24.968	-17.880	25
2.5	63.5	24.968	-21.880	25
2.5	68.5	24.968	-28.280	25
2.5	73.5	24.968	-38.480	25
2.5	78.5	24.968	-52.280	25
2.5	83.5	24.968	-51.800	25
2.5	88.5	24.968	-7.480	25
2.5	93.5	24.968	-4.520	25
2.5	98.5	24.968	14.775	21
2.5	103.5	24.968	21.830	11
2.5	108.5	24.968	23.039	17
2.5	113.5	24.968	27.483	6
2.5	118.5	24.968	42.174	13
2.5	123.5	24.968	10.367	16
2.5	128.5	24.968	21.244	15
2.5	133.5	24.968	49.675	7
2.5	138.5	24.968	7.160	7
2.5	143.5	24.968	13.352	21
2.5	148.5	24.968	11.214	18
2.5	153.5	24.968	7.289	10
2.5	158.5	24.968	8.522	6
2.5	163.5	24.968	9.564	2
2.5	168.5	24.968	-5.383	5
2.5	178.5	24.968	5.058	6
2.5	183.5	24.968	7.748	13
2.5	188.5	24.968	2.043	13
2.5	193.5	24.968	8.564	17
2.5	198.5	24.968	18.463	20
2.5	203.5	24.968	27.688	8
2.5	208.5	24.968	3.071	10
2.5	238.5	24.968	-.020	5
2.5	243.5	24.968	-4.119	6
2.5	248.5	24.968	-8.212	6
2.5	253.5	24.968	-4.758	6
2.5	258.5	24.968	-6.710	7
2.5	263.5	24.968	-.943	6
2.5	268.5	24.968	3.089	8
2.5	273.5	24.968	1.493	15
2.5	278.5	24.968	3.453	24
2.5	283.5	24.968	40.560	25
2.5	288.5	24.968	21.819	21
2.5	298.5	24.968	13.261	1
2.5	303.5	24.968	-15.260	5
2.5	308.5	24.968	-10.676	9
2.5	313.5	24.968	-33.505	11
2.5	318.5	24.968	-14.370	20
2.5	323.5	24.968	-5.333	16
2.5	328.5	24.968	15.159	21
2.5	333.5	24.968	5.580	9
2.5	338.5	24.968	9.778	4
2.5	343.5	24.968	-6.646	13
2.5	348.5	24.968	-15.322	5
2.5	353.5	24.968	7.289	15
2.5	358.5	24.968	-.017	13
-2.5	3.5	24.968	15.556	8
-2.5	8.5	24.968	19.556	9
-2.5	13.5	24.968	-16.200	25
-2.5	18.5	24.968	-27.240	25
-2.5	23.5	24.968	-33.120	25
-2.5	28.5	24.968	2.920	25
-2.5	33.5	24.968	1.560	25
-2.5	38.5	24.968	-7.107	23
-2.5	43.5	24.968	-33.123	23
-2.5	48.5	24.968	-22.480	25
-2.5	53.5	24.968	-6.440	25
-2.5	58.5	24.968	-12.600	25
-2.5	63.5	24.968	-19.800	25
-2.5	68.5	24.968	-28.720	25
-2.5	73.5	24.968	-41.600	25
-2.5	78.5	24.968	-49.640	25
-2.5	83.5	24.968	-42.880	25
-2.5	88.5	24.968	-18.800	25
-2.5	93.5	24.968	-6.160	25
-2.5	98.5	24.968	1.160	25
-2.5	103.5	24.968	41.733	20
-2.5	108.5	24.968	32.667	21
-2.5	113.5	24.968	30.302	13
-2.5	118.5	24.968	21.097	21
-2.5	123.5	24.968	2.793	20
-2.5	128.5	24.968	2.680	25
-2.5	133.5	24.968	15.374	24
-2.5	138.5	24.968	11.648	18
-2.5	143.5	24.968	27.840	25
-2.5	148.5	24.968	42.400	25
-2.5	153.5	24.968	21.640	23
-2.5	158.5	24.968	22.876	23
-2.5	163.5	24.968	-1.389	3
-2.5	173.5	24.968	-14.085	1
-2.5	178.5	24.968	1.793	15
-2.5	183.5	24.968	-5.481	9
-2.5	188.5	24.968	5.636	18
-2.5	193.5	24.968	7.273	12
-2.5	198.5	24.968	10.569	14
-2.5	203.5	24.968	11.021	8
-2.5	208.5	24.968	6.506	10
-2.5	228.5	24.968	.655	1
-2.5	233.5	24.968	2.860	8
-2.5	238.5	24.968	-.301	4
-2.5	243.5	24.968	2.293	1
-2.5	248.5	24.968	5.305	5
-2.5	253.5	24.968	5.566	1
-2.5	268.5	24.968	-19.771	9
-2.5	273.5	24.968	-6.790	5
-2.5	278.5	24.968	14.127	21
-2.5	283.5	24.968	17.869	13
-2.5	288.5	24.968	41.610	12
-2.5	293.5	24.968	20.165	19
-2.5	298.5	24.968	.523	15
-2.5	303.5	24.968	-1.476	20
-2.5	308.5	24.968	-4.544	17
-2.5	313.5	24.968	-28.302	23
-2.5	318.5	24.968	-7.707	24
-2.5	323.5	24.968	-5.416	16
-2.5	328.5	24.968	-2.177	21
-2.5	333.5	24.968	-3.978	21
-2.5	338.5	24.968	-8.627	14
-2.5	343.5	24.968	6.400	13
-2.5	348.5	24.968	6.307	3
-2.5	353.5	24.968	5.367	3
-2.5	358.5	24.968	8.516	1
-7.5	3.5	24.778	9.770	9
-7.5	8.5	24.778	-7.763	4
-7.5	13.5	24.778	-7.782	17
-7.5	18.5	24.778	-31.600	25
-7.5	23.5	24.778	-30.080	25
-7.5	28.5	24.778	-7.280	25
-7.5	33.5	24.778	2.280	25

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
-7.5	39.0	29.734	-18.500	25
-7.5	44.5	24.778	-32.080	25
-7.5	49.5	24.778	-18.640	25
-7.5	54.5	24.778	-15.160	25
-7.5	59.5	24.778	-1.960	25
-7.5	64.5	24.778	-14.120	25
-7.5	69.5	24.778	-13.600	25
-7.5	74.5	24.778	-23.040	25
-7.5	79.5	24.778	-35.400	25
-7.5	84.5	24.778	-28.640	25
-7.5	89.5	24.778	-26.920	25
-7.5	94.5	24.778	-10.480	25
-7.5	99.5	24.778	5.640	25
-7.5	104.5	24.778	-3.240	25
-7.5	110.0	29.734	18.380	25
-7.5	115.5	24.778	19.840	25
-7.5	120.5	24.778	-.520	25
-7.5	125.5	24.778	-15.560	25
-7.5	130.5	24.778	-24.120	25
-7.5	135.5	24.778	15.856	17
-7.5	140.5	24.778	23.227	24
-7.5	145.5	24.778	36.400	25
-7.5	150.5	24.778	20.360	25
-7.5	155.5	24.778	40.120	25
-7.5	160.5	24.778	10.438	22
-7.5	165.5	24.778	8.345	10
-7.5	170.5	24.778	-.531	15
-7.5	175.5	24.778	2.399	16
-7.5	181.0	29.734	-1.354	17
-7.5	186.5	24.778	14.836	11
-7.5	191.5	24.778	-.187	6
-7.5	196.5	24.778	-9.231	4
-7.5	201.5	24.778	21.001	8
-7.5	206.5	24.778	4.513	5
-7.5	211.5	24.778	-.297	10
-7.5	221.5	24.778	14.556	3
-7.5	226.5	24.778	.182	9
-7.5	231.5	24.778	1.557	4
-7.5	236.5	24.778	.217	7
-7.5	241.5	24.778	-1.189	7
-7.5	246.5	24.778	1.809	2
-7.5	252.0	29.734	5.978	4
-7.5	257.5	24.778	1.138	6
-7.5	262.5	24.778	-6.121	7
-7.5	267.5	24.778	-8.537	4
-7.5	277.5	24.778	-22.916	13
-7.5	282.5	24.778	10.570	16
-7.5	287.5	24.778	34.597	23
-7.5	292.5	24.778	33.545	18
-7.5	297.5	24.778	15.665	12
-7.5	302.5	24.778	-7.295	2
-7.5	312.5	24.778	-25.048	22
-7.5	317.5	24.778	-22.160	25
-7.5	323.0	29.734	12.700	25
-7.5	328.5	24.778	-20.738	18
-7.5	333.5	24.778	-7.375	4
-7.5	338.5	24.778	-5.732	11
-7.5	343.5	24.778	3.317	20
-7.5	348.5	24.778	5.947	14
-7.5	353.5	24.778	-9.967	2
-7.5	358.5	24.778	-1.813	2
-12.5	3.5	24.400	7.612	7
-12.5	13.5	24.400	7.873	14
-12.5	19.0	29.280	-12.200	25
-12.5	24.5	24.400	-8.480	25
-12.5	29.5	24.400	-4.160	25
-12.5	34.5	24.400	-4.640	25
-12.5	39.5	24.400	-15.284	23
-12.5	44.5	24.400	-16.972	20
-12.5	49.5	24.400	-5.416	18
-12.5	55.0	29.280	-6.662	15
-12.5	60.5	24.400	.272	24
-12.5	65.5	24.400	-6.800	25
-12.5	70.5	24.400	-9.972	22
-12.5	75.5	24.400	-21.800	25
-12.5	80.5	24.400	-23.007	24
-12.5	85.5	24.400	-26.040	25
-12.5	91.0	29.280	-30.600	25
-12.5	96.5	24.400	-16.720	25
-12.5	101.5	24.400	-6.520	25
-12.5	106.5	24.400	5.760	25
-12.5	111.5	24.400	-7.360	25
-12.5	116.5	24.400	-18.920	25
-12.5	121.5	24.400	8.720	25
-12.5	127.0	29.280	20.140	25
-12.5	132.5	24.400	27.640	25
-12.5	137.5	24.400	18.880	25
-12.5	142.5	24.400	25.000	25
-12.5	147.5	24.400	14.640	25
-12.5	152.5	24.400	26.000	25
-12.5	157.5	24.400	22.633	21
-12.5	163.0	29.280	23.060	23
-12.5	168.5	24.400	21.025	16
-12.5	173.5	24.400	-2.338	7
-12.5	178.5	24.400	14.066	11
-12.5	183.5	24.400	18.853	15
-12.5	188.5	24.400	17.484	19
-12.5	193.5	24.400	.855	14
-12.5	199.0	29.280	15.257	7
-12.5	204.5	24.400	.283	4
-12.5	209.5	24.400	3.412	14
-12.5	214.5	24.400	-10.154	1
-12.5	219.5	24.400	-4.910	11
-12.5	224.5	24.400	-4.787	7
-12.5	229.5	24.400	3.183	6
-12.5	235.0	29.280	.983	1
-12.5	260.5	24.400	-12.614	3
-12.5	265.5	24.400	-18.663	6
-12.5	271.0	29.280	-20.282	5
-12.5	276.5	24.400	-24.216	7
-12.5	281.5	24.400	-17.310	18
-12.5	286.5	24.400	55.212	12
-12.5	291.5	24.400	44.604	10
-12.5	296.5	24.400	36.486	5
-12.5	307.0	29.280	-17.299	1
-12.5	312.5	24.400	6.660	20
-12.5	317.5	24.400	-5.760	25
-12.5	322.5	24.400	-7.832	24
-12.5	327.5	24.400	-9.510	20
-12.5	332.5	24.400	4.799	3
-12.5	343.0	29.280	-2.035	8
-12.5	348.5	24.400	-4.859	15
-12.5	353.5	24.400	-3.764	5
-12.5	358.5	24.400	2.818	6
-17.5	3.5	23.835	15.265	4
-17.5	8.5	23.835	4.774	8
-17.5	14.0	28.602	11.209	20
-17.5	19.5	23.835	-6.960	25
-17.5	24.5	23.835	-5.360	25
-17.5	29.5	23.835	7.640	25
-17.5	35.0	28.602	-7.465	21
-17.5	40.5	23.835	-21.321	24
-17.5	45.5	23.835	9.347	21
-17.5	50.5	23.835	13.170	11
-17.5	55.5	23.835	.143	17
-17.5	61.0	28.602	9.160	25
-17.5	66.5	23.835	7.400	25
-17.5	71.5	23.835	-4.183	22
-17.5	76.5	23.835	-14.568	24
-17.5	81.5	23.835	-24.201	24
-17.5	87.0	28.602	-21.200	25
-17.5	92.5	23.835	-31.240	25
-17.5	97.5	23.835	-26.880	25
-17.5	102.5	23.835	-23.400	25
-17.5	108.0	28.602	-21.960	25
-17.5	113.5	23.835	-21.960	25
-17.5	118.5	23.835	.360	25
-17.5	123.5	23.835	12.160	25
-17.5	128.5	23.835	14.600	25
-17.5	134.0	28.602	6.600	25
-17.5	139.5	23.835	9.160	25
-17.5	144.5	23.835	25.680	25
-17.5	149.5	23.835	16.640	25
-17.5	155.0	28.602	10.980	25
-17.5	160.5	23.835	-1.575	19
-17.5	165.5	23.835	-7.115	6
-17.5	170.5	23.835	52.397	11
-17.5	175.5	23.835	31.951	13
-17.5	181.0	28.602	20.542	14
-17.5	186.5	23.835	-27.774	11
-17.5	191.5	23.835	4.417	16
-17.5	196.5	23.835	-4.798	11
-17.5	201.5	23.835	9.310	7
-17.5	207.0	28.602	-1.374	11
-17.5	212.5	23.835	-4.090	15
-17.5	217.5	23.835	-12.942	6
-17.5	222.5	23.835	-12.417	11
-17.5	228.0	28.602	-7.864	6
-17.5	233.5	23.835	-8.565	5
-17.5	238.5	23.835	-3.964	6
-17.5	243.5	23.835	1.358	6
-17.5	248.5	23.835	-.690	5
-17.5	254.0	28.602	-15.457	7
-17.5	259.5	23.835	-10.307	4
-17.5	269.5	23.835	1.986	1
-17.5	280.5	23.835	-22.027	1
-17.5	285.5	23.835	15.917	10
-17.5	290.5	23.835	76.157	19

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
-17.5	295.5	23.835	49.111	21
-17.5	301.0	28.602	22.467	11
-17.5	306.5	23.835	-2.867	1
-17.5	311.5	23.835	-20.349	18
-17.5	316.5	23.835	-18.920	25
-17.5	321.5	23.835	-12.012	23
-17.5	327.0	28.602	-9.672	15
-17.5	332.5	23.835	-4.824	8
-17.5	353.5	23.835	-.506	8
-17.5	358.5	23.835	.122	7
-22.5	3.5	23.090	14.301	10
-22.5	9.0	27.708	6.262	11
-22.5	14.5	23.090	33.467	17
-22.5	19.5	23.090	12.000	25
-22.5	25.0	27.708	-.720	25
-22.5	30.5	23.090	3.360	25
-22.5	36.0	27.708	-10.660	25
-22.5	41.5	23.090	-8.360	25
-22.5	46.5	23.090	26.072	24
-22.5	52.0	27.708	-4.200	22
-22.5	57.5	23.090	-3.480	25
-22.5	62.5	23.090	14.367	20
-22.5	68.0	27.708	23.078	23
-22.5	73.5	23.090	4.121	20
-22.5	79.0	27.708	-2.848	13
-22.5	84.5	23.090	-9.746	5
-22.5	89.5	23.090	-6.229	9
-22.5	95.0	27.708	-16.591	7
-22.5	100.5	23.090	-30.595	13
-22.5	105.5	23.090	1.483	12
-22.5	111.0	27.708	-2.891	21
-22.5	116.5	23.090	3.553	17
-22.5	122.0	27.708	-1.420	25
-22.5	127.5	23.090	-6.480	25
-22.5	132.5	23.090	-6.240	25
-22.5	138.0	27.708	15.720	25
-22.5	143.5	23.090	4.760	25
-22.5	148.5	23.090	26.095	23
-22.5	154.0	27.708	10.441	9
-22.5	159.5	23.090	11.683	4
-22.5	165.0	27.708	28.944	14
-22.5	170.5	23.090	20.164	6
-22.5	175.5	23.090	29.410	3
-22.5	181.0	27.708	42.383	4
-22.5	186.5	23.090	-20.445	20
-22.5	191.5	23.090	-20.328	6
-22.5	208.0	27.708	-11.860	10
-22.5	213.5	23.090	-12.686	7
-22.5	218.5	23.090	-8.827	6
-22.5	224.0	27.708	-9.025	2
-22.5	240.0	27.708	5.557	4
-22.5	245.5	23.090	5.795	4
-22.5	283.0	27.708	-1.239	7
-22.5	288.5	23.090	15.033	13
-22.5	294.0	27.708	52.917	18
-22.5	299.5	23.090	24.482	6
-22.5	304.5	23.090	-7.617	8
-22.5	310.0	27.708	-18.227	22
-22.5	315.5	23.090	-2.545	22
-22.5	320.5	23.090	3.047	13
-22.5	326.0	27.708	-15.391	13
-22.5	331.5	23.090	-14.893	8
-22.5	358.5	23.090	-3.050	15
-27.5	4.0	26.602	5.140	15
-27.5	9.5	22.168	10.741	17
-27.5	15.0	26.602	22.982	21
-27.5	21.0	26.602	11.780	25
-27.5	26.5	22.168	22.040	25
-27.5	32.0	26.602	21.860	25
-27.5	37.5	22.168	-11.080	25
-27.5	43.0	26.602	16.260	25
-27.5	49.0	26.602	8.660	25
-27.5	54.5	22.168	-3.640	25
-27.5	60.0	26.602	.421	18
-27.5	66.0	26.602	21.533	15
-27.5	71.5	22.168	31.701	12
-27.5	77.0	26.602	5.482	7
-27.5	82.5	22.168	-8.569	5
-27.5	88.0	26.602	-.694	7
-27.5	94.0	26.602	-10.457	9
-27.5	99.5	22.168	-10.111	9
-27.5	105.0	26.602	-14.181	10
-27.5	111.0	26.602	-19.488	12
-27.5	116.5	22.168	1.315	24
-27.5	122.0	26.602	-7.323	17
-27.5	127.5	22.168	-10.416	22
-27.5	133.0	26.602	-16.201	23
-27.5	139.0	26.602	-7.360	25
-27.5	144.5	22.168	-1.480	25
-27.5	150.0	26.602	17.780	25
-27.5	156.0	26.602	26.351	17
-27.5	161.5	22.168	-4.748	8
-27.5	167.0	26.602	-21.280	3
-27.5	172.5	22.168	13.620	1
-27.5	178.0	26.602	14.486	5
-27.5	184.0	26.602	11.117	11
-27.5	189.5	22.168	-19.412	9
-27.5	212.0	26.602	-15.004	14
-27.5	217.5	22.168	-1.404	6
-27.5	246.0	26.602	-.826	4
-27.5	251.5	22.168	4.214	8
-27.5	257.0	26.602	-5.018	1
-27.5	262.5	22.168	7.625	2
-27.5	268.0	26.602	-6.810	1
-27.5	285.0	26.602	13.802	11
-27.5	291.0	26.602	43.834	23
-27.5	296.5	22.168	17.762	24
-27.5	302.0	26.602	14.280	17
-27.5	307.5	22.168	-.647	20
-27.5	313.0	26.602	1.876	21
-27.5	319.0	26.602	-20.198	6
-27.5	324.5	22.168	-20.065	13
-27.5	330.0	26.602	-13.903	12
-27.5	336.0	26.602	-7.892	5
-27.5	341.5	22.168	-3.659	5
-27.5	347.0	26.602	2.200	5
-27.5	352.5	22.168	-5.674	10
-27.5	358.0	26.602	-2.570	5
-32.5	4.0	25.294	9.796	11
-32.5	10.0	25.294	8.883	15
-32.5	16.0	25.294	8.365	23
-32.5	22.0	25.294	24.280	25
-32.5	28.0	25.294	17.300	25
-32.5	33.5	21.078	5.800	25
-32.5	39.0	25.294	-6.180	25
-32.5	45.0	25.294	30.900	25
-32.5	51.0	25.294	13.540	25
-32.5	57.0	25.294	19.980	25
-32.5	63.0	25.294	-2.004	11
-32.5	69.0	25.294	8.973	10
-32.5	75.0	25.294	12.641	6
-32.5	81.0	25.294	3.943	5
-32.5	87.0	25.294	6.521	7
-32.5	92.5	21.078	-7.895	12
-32.5	98.0	25.294	-17.568	16
-32.5	104.0	25.294	-25.937	16
-32.5	110.0	25.294	-26.324	22
-32.5	116.0	25.294	-2.200	25
-32.5	122.0	25.294	-14.575	24
-32.5	128.0	25.294	-27.987	19
-32.5	134.0	25.294	-12.756	24
-32.5	140.0	25.294	3.860	25
-32.5	146.0	25.294	3.835	24
-32.5	151.5	21.078	31.560	25
-32.5	157.0	25.294	-20.117	14
-32.5	163.0	25.294	-24.710	5
-32.5	169.0	25.294	-29.058	5
-32.5	175.0	25.294	-21.241	2
-32.5	181.0	25.294	11.582	12
-32.5	187.0	25.294	-29.302	4
-32.5	193.0	25.294	-43.103	5
-32.5	210.5	21.078	-24.517	10
-32.5	216.0	25.294	.284	3
-32.5	222.0	25.294	8.303	5
-32.5	228.0	25.294	7.171	4
-32.5	234.0	25.294	6.953	4
-32.5	240.0	25.294	2.830	5
-32.5	246.0	25.294	3.892	5
-32.5	252.0	25.294	.704	8
-32.5	258.0	25.294	-.307	10
-32.5	264.0	25.294	-9.170	7
-32.5	269.5	21.078	-2.781	5
-32.5	275.0	25.294	-.727	6
-32.5	281.0	25.294	-.881	6
-32.5	287.0	25.294	-11.995	19
-32.5	293.0	25.294	34.080	25
-32.5	299.0	25.294	15.920	25
-32.5	305.0	25.294	17.796	22
-32.5	311.0	25.294	6.525	15
-32.5	317.0	25.294	-3.306	11
-32.5	323.0	25.294	-14.226	16
-32.5	328.5	21.078	-26.704	3
-32.5	334.0	25.294	-8.681	7
-32.5	340.0	25.294	-2.807	7
-32.5	346.0	25.294	5.663	5
-32.5	352.0	25.294	3.334	8
-32.5	358.0	25.294	1.240	6

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
-37.5	4.0	23.793	-1.595	4
-37.5	10.5	27.759	3.719	12
-37.5	17.0	23.793	-1.632	17
-37.5	23.0	23.793	6.593	24
-37.5	29.5	27.759	11.111	24
-37.5	36.0	23.793	3.641	20
-37.5	42.0	23.793	8.934	12
-37.5	48.5	27.759	20.595	10
-37.5	55.0	23.793	8.698	10
-37.5	61.0	23.793	3.754	8
-37.5	73.5	27.759	6.146	7
-37.5	80.0	23.793	9.605	15
-37.5	86.0	23.793	-2.131	12
-37.5	92.5	27.759	-3.663	17
-37.5	99.0	23.793	-13.893	20
-37.5	105.0	23.793	-23.576	14
-37.5	111.5	27.759	-29.418	12
-37.5	118.0	23.793	-29.128	7
-37.5	124.0	23.793	-32.920	3
-37.5	130.5	27.759	-26.673	3
-37.5	137.0	23.793	-8.723	17
-37.5	143.0	23.793	2.818	24
-37.5	149.5	27.759	13.024	21
-37.5	156.0	23.793	-3.399	14
-37.5	162.0	23.793	-1.157	10
-37.5	168.5	27.759	9.244	11
-37.5	175.0	23.793	8.411	21
-37.5	181.0	23.793	-.303	15
-37.5	187.0	23.793	-20.038	5
-37.5	193.5	27.759	-24.326	3
-37.5	212.5	27.759	-23.860	10
-37.5	219.0	23.793	-1.021	4
-37.5	225.0	23.793	-5.397	3
-37.5	231.5	27.759	4.803	4
-37.5	238.0	23.793	4.346	3
-37.5	244.0	23.793	7.022	2
-37.5	250.5	27.759	-6.419	3
-37.5	257.0	23.793	-2.293	1
-37.5	263.0	23.793	-10.204	9
-37.5	282.0	23.793	-6.527	1
-37.5	288.5	27.759	17.574	21
-37.5	295.0	23.793	10.940	25
-37.5	301.0	23.793	12.140	25
-37.5	307.0	23.793	6.557	24
-37.5	313.5	27.759	-30.024	19
-37.5	320.0	23.793	-17.166	11
-37.5	326.0	23.793	-.082	5
-37.5	332.5	27.759	1.755	4
-37.5	339.0	23.793	-.979	2
-37.5	345.0	23.793	0.000	1
-37.5	351.5	27.759	8.886	2
-42.5	4.5	25.797	-12.518	4
-42.5	18.0	22.111	-.655	1
-42.5	24.5	25.797	2.729	4
-42.5	31.5	25.797	20.650	7
-42.5	72.5	25.797	31.672	5
-42.5	86.0	22.111	1.205	3
-42.5	92.5	25.797	-1.188	3
-42.5	99.5	25.797	-2.915	3
-42.5	106.5	25.797	-9.313	2
-42.5	113.0	22.111	-8.844	1
-42.5	140.5	25.797	-6.807	2
-42.5	147.0	22.111	30.083	17
-42.5	153.5	25.797	-3.152	5
-42.5	167.5	25.797	-1.677	6
-42.5	174.5	25.797	9.145	20
-42.5	181.0	22.111	14.672	12
-42.5	187.5	25.797	7.614	10
-42.5	208.5	25.797	-27.338	5
-42.5	262.5	25.797	-2.948	1
-42.5	269.5	25.797	-6.439	8
-42.5	282.5	25.797	-4.989	3
-42.5	289.5	25.797	23.265	20
-42.5	296.5	25.797	18.651	13
-42.5	303.5	25.797	-2.524	19
-42.5	310.0	22.111	-15.128	10
-42.5	316.5	25.797	-13.221	8
-42.5	350.5	25.797	-9.745	2
-42.5	357.5	25.797	-12.778	9
-47.5	34.0	27.015	3.226	1
-47.5	70.5	23.638	4.852	5
-47.5	159.0	27.015	22.549	5
-47.5	166.5	23.638	24.211	7
-47.5	173.5	23.638	35.570	6
-47.5	181.0	27.015	4.736	7
-47.5	188.5	23.638	-22.889	13
-47.5	210.5	23.638	-18.443	10
-47.5	247.0	27.015	-.734	2
-47.5	269.0	27.015	-4.027	2
-47.5	276.5	23.638	-3.364	6
-47.5	284.0	27.015	12.090	5
-47.5	291.5	23.638	-2.128	17
-47.5	298.5	23.638	1.743	11
-47.5	306.0	27.015	-15.690	20
-47.5	320.5	23.638	-19.265	10
-47.5	328.0	27.015	-17.787	8
-47.5	335.5	23.638	-9.771	4
-47.5	342.5	23.638	-.857	7
-47.5	350.0	27.015	9.058	7
-52.5	70.5	27.386	-16.827	3
-52.5	136.0	24.343	17.688	1
-52.5	144.0	24.343	10.406	5
-52.5	152.0	24.343	20.292	5
-52.5	160.5	27.386	8.398	2
-52.5	169.0	24.343	18.760	3
-52.5	177.0	24.343	.041	2
-52.5	185.0	24.343	16.818	6
-52.5	193.0	24.343	2.765	5
-52.5	210.0	24.343	-2.177	5
-52.5	250.5	27.386	-2.992	2
-52.5	275.0	24.343	-1.310	1
-52.5	283.0	24.343	.411	14
-52.5	291.5	27.386	.278	20
-52.5	300.0	24.343	2.470	18
-52.5	308.0	24.343	-2.066	15
-52.5	316.0	24.343	6.581	12
-52.5	324.0	24.343	-20.115	6
-52.5	340.5	27.386	16.320	7
-57.5	42.5	24.171	0.000	1
-57.5	134.5	24.171	33.186	6
-57.5	144.0	26.856	40.719	4
-57.5	153.5	24.171	22.842	9
-57.5	181.0	26.856	6.551	1
-57.5	190.5	24.171	-9.895	15
-57.5	199.5	24.171	-9.218	2
-57.5	208.5	24.171	-19.076	5
-57.5	218.0	26.856	-1.075	1
-57.5	254.5	24.171	-2.419	3
-57.5	273.5	24.171	-2.587	3
-57.5	282.5	24.171	-.064	8
-57.5	291.5	24.171	5.908	12
-57.5	301.0	26.856	27.427	15
-57.5	310.5	24.171	23.063	15
-57.5	319.5	24.171	14.528	4
-57.5	328.5	24.171	25.266	7
-57.5	338.0	26.856	-25.311	4
-62.5	6.5	25.388	14.795	2
-62.5	17.5	25.388	40.685	7
-62.5	28.5	25.388	19.354	1
-62.5	50.5	25.388	-2.576	1
-62.5	71.5	25.388	14.590	4
-62.5	82.5	25.388	14.696	10
-62.5	93.5	25.388	1.768	7
-62.5	104.5	25.388	63.003	4
-62.5	115.5	25.388	-22.357	3
-62.5	126.5	25.388	-33.040	1
-62.5	137.5	25.388	-2.058	6
-62.5	148.5	25.388	-12.831	13
-62.5	159.5	25.388	-3.376	7
-62.5	170.5	25.388	2.867	1
-62.5	191.5	25.388	1.394	7
-62.5	202.5	25.388	-19.573	3
-62.5	213.5	25.388	-8.443	6
-62.5	246.5	25.388	-6.936	4
-62.5	279.5	25.388	1.282	3
-62.5	290.5	25.388	-6.476	16
-62.5	301.0	23.080	36.348	22
-62.5	311.5	25.388	25.986	5
-67.5	7.5	24.867	16.433	5
-67.5	20.5	24.867	9.953	12
-67.5	33.5	24.867	9.099	15
-67.5	46.0	22.954	19.545	12
-67.5	58.5	24.867	51.337	14
-67.5	71.5	24.867	24.550	15
-67.5	84.5	24.867	11.286	15
-67.5	97.5	24.867	8.798	15
-67.5	110.5	24.867	27.773	15
-67.5	123.5	24.867	20.088	9
-67.5	136.0	22.954	-28.612	7
-67.5	148.5	24.867	8.903	7
-67.5	161.5	24.867	-5.690	16
-67.5	174.5	24.867	-7.593	9
-67.5	187.5	24.867	-7.961	12

Lat. (deg.)	Long. (deg.)	Area (deg. sq.)	Gravity anomaly (mgal)	No.
-67.5	200.5	24.867	-14.134	5
-67.5	213.5	24.867	-4.689	2
-67.5	226.0	22.954	-15.279	5
-67.5	238.5	24.867	-18.451	6
-67.5	251.5	24.867	-9.586	1
-67.5	264.5	24.867	-3.944	4
-67.5	277.5	24.867	8.216	4
-67.5	290.5	24.867	14.553	7
-72.5	9.0	24.049	-23.859	2
-72.5	25.5	25.552	-5.211	5
-72.5	91.0	24.049	11.740	12
-72.5	107.5	25.552	.773	6
-72.5	140.0	24.049	-21.911	8
-72.5	156.5	25.552	-18.531	5
-72.5	173.0	24.049	17.540	1
-72.5	205.5	25.552	-16.390	2
-72.5	238.0	24.049	-5.312	2
-72.5	254.5	25.552	-14.740	1
-72.5	271.0	24.049	9.462	6
-72.5	287.5	25.552	.169	8
-77.5	35.0	23.801	-10.036	1
-77.5	80.0	23.801	3.650	5
-77.5	102.5	24.883	-2.232	11
-77.5	125.0	23.801	-14.446	2
-77.5	147.5	24.883	-14.067	14
-77.5	170.0	23.801	-26.106	12
-77.5	192.5	24.883	-14.200	10
-77.5	215.0	23.801	-12.553	9
-77.5	237.5	24.883	-4.361	21
-77.5	260.0	23.801	-16.726	22
-77.5	282.5	24.883	7.970	9
-77.5	305.0	23.801	-1.576	2
-77.5	327.5	24.883	-1.045	8
-82.5	21.0	26.097	-1.791	13
-82.5	61.0	26.097	13.562	9
-82.5	141.0	26.097	-13.741	11
-82.5	181.0	26.097	-31.255	14
-82.5	221.0	26.097	-18.011	10
-82.5	261.0	26.097	-4.232	24
-82.5	301.0	26.097	-19.483	13
-87.5	61.0	26.163	-10.818	7
-87.5	181.0	26.163	-19.351	13
-87.5	301.0	26.163	-9.284	10

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BIOGRAPHICAL NOTES

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She has been with the Smithsonian Astrophysical Observatory since 1971 as a mathematician in the Analytical Satellite Geophysics Group. She has developed programs for analyzing surface-gravity data and for studying the effects of solar radiation pressure on satellite motion.

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NOTICE

This series of Special Reports was instituted under the supervision of Dr. F. L. Whipple, Director of the Astrophysical Observatory of the Smithsonian Institution, shortly after the launching of the first artificial earth satellite on October 4, 1957. Contributions come from the Staff of the Observatory.

First issued to ensure the immediate dissemination of data for satellite tracking, the reports have continued to provide a rapid distribution of catalogs of satellite observations, orbital information, and preliminary results of data analyses prior to formal publication in the appropriate journals. The Reports are also used extensively for the rapid publication of preliminary or special results in other fields of astrophysics.

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